Dialog®

Core FT1:

Business & Industry??, File 9 (1994 - present)

ABI/INFORM??, File 15 (1971 - present)

Gale Group PROMT??, File 16 (1990 - present)

Gale Group Trade & Industry Database??, File 148 (1976 - present)

Gale Group PROMT??, File 160 (1972-1989)

Gale Group Computer Database??, File 275 (full-text 1/1988 - present)

Business Wire, File 610 (Mar 1999 - present)

Business Wire, File 810 (1986 - February 1999)

Core FT2:

Dialog Global Reporter, File 20 (May 1997 - present)

The McGraw-Hill Companies Publications Online, File 624 (1985 - present)

Gale Group New Product Announcements/Plus?? (NPA/Plus, File 621 (1985 - present)

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PR Newswire, File 613 (May 1999 - present)

San Jose Mercury News, File 634 (Jun 1985 - present)

PR Newswire, File 813 (May 1987 - May 1999)

Set#	Query
L1	(audio sound) near10 stream near internet
L2	(audio or sound) near5 stream$3
L3	internet near10 den$5 near5 access
L4	l2 and l3

15/9/7 (Item 7 from file: 16)
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Cushing, Karl

Computer Weekly , p 48
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Text:

Buying more bandwidth can be an expensive business if you want to avoid bottlenecks. Karl Cushing explains how The Royal Borough of Kensington and Chelsea rolled out an ISP service to solve the problem

Avoiding bottlenecks is a headache for any organisation considering becoming an Internet service provider (ISP). A simple solution is to buy more bandwidth, but this is an expensive business and it will not necessarily solve the problem of Internet traffic clogging up the system in the long run. So, when money is tight and a bottleneck is imminent, what do you do?

The Royal Borough of Kensington and Chelsea faced this problem when Internet usage on its network climbed. It decided to roll out an ISP service to the 36 schools in the area. The borough's existing network offered just 2mbps of bandwidth. As Russell Hookway, the borough's network and telecommunications manager, explains, "Bandwidth is expensive and this was a good place to start."

But, although this was sufficient for servicing its corporate concerns, the network's capacity began to look increasingly insufficient.

It was unclear whether the existing network could cope with the increase in traffic. But there was no money for providing new bandwidth.

"To keep throwing band-width at the problem is not the solution," says Hookway.

Instead Kensington and Chelsea invested in traffic management technology. And following a successful trial three years ago, the borough decided to use Packet-shaper from application performance infrastructure firm Packeteer. He says that this option has allowed the borough to maximise the available bandwidth.

"People don't realise that you can manage traffic to this level,"
Hookway says.

The borough bought seven Packetshapers. Put simply, they sit on the
network and monitor the traffic, allowing prioritising of important
items.

As well as providing information on the amount and types of traffic
using the network, Packetshaper provides the borough with a graphical
interface, showing graphs detailing hourly trends. Using this information,
Kensington and Chelsea can partition ports, limit the amount of bandwidth
available to certain ports and guarantee important traffic takes
precedence.

Hookway says that without it, the borough could not have become an
ISP for its local schools -- a role it has been carrying out for the past
two years. "We encourage them to use us as an ISP," he says. "Then we can
also provide them with intranet and email services." Hookway points out
that although schools are charged for the ISP service, it does not make a
profit.

Initially, the schools were using 128Kbyte integrated services
digital network links, which resulted in "an obvious bottleneck". But they
have since invested in local proxy servers to speed up their Internet
connections. Hookway says that half the schools now have 2mbps connections
and the others are raising the money to follow suit.

Four schools from the Royal Borough of Kensington and Chelsea are
also part of a local City Learning Centre initiative, which aims to promote
IT in the area's schools.

"It's getting bigger and bigger and Internet usage is increasing all
the time," says Hookway.

The need for bandwidth management can be seen in the simple
statistic that, even using Packetshaper, the pipe is being utilised to 80%
capacity for most of the day.

Up until now, the borough has managed with its 2mbps link. But
because it is to introduce free broadband Internet access in its five
libraries in the autumn, it has chosen to invest in a 10mbps link, using
corporate funding. The link will go live in September.

Hookway believes that the use of Internet in schools "is still in
its infancy at the moment" and "usage is just going to go up and up" so
capacity will need to be increased.

He points out that schools are bound to start making further use of
facilities such as videoconferencing and video/**audio**

streaming.

"To deliver those services you've got to manage the link," Hookway says.

The borough also redeveloped its Web site at the beginning of the year and it is being continually redeveloped in line with government initiatives -- such as providing the ability to pay parking tickets online -- which will also have an impact on the amount of traffic the borough will have to deal with.

Another benefit of traffic management technology is that it increases visibility across the network. For example, the borough can see the top 10 **Internet** sites being used at any time. It can use this information to **deny access** to any sites that it deems unsuitable or that use too much bandwidth. The borough also uses Web-filtering software on a school-by-school basis.

Hookway says there were no teething problems in setting up the system. "It just sits on the network and listens to traffic," he explains. "It's very much a 'plug and play' application, which learns as it goes."

Having set up the system, it was a case of tailoring it to the needs of the network. According to Hookway, there are no training considerations -- all that is required is a basic understanding of Internet traffic management.

The hardware was a one-off cost of just over (pound)70,000. And Packeteer charges a further 5% per year for maintenance of the system.

"It has paid for itself over and over," says Hookway. "It is one of those devices that delivers exactly what it says it will deliver."

What is traffic management technology?

Traffic and bandwidth management systems can help to deliver predictable and efficient performance for applications running over both wide area networks and the Internet.

By providing a breakdown of the different traffic using the network, firms can ensure that important traffic gets priority and capacity is available for bandwidth-hungry services such as **audio** and video **streaming**. Less important traffic such as private e-mails use the surplus bandwidth when it becomes available.

For Internet service providers, managing bandwidth more effectively means that more customised bandwidth services can be delivered to end-users.

Traffic management technology helps organisations to squeeze the maximum benefit from the available bandwidth on their existing networks. It is a much cheaper alternative to purchasing more bandwidth and should lead to a more consistent throughput.

How traffic began to flow

* There is one Packetshaper on either side of the firewall
* One is used for primary and nursery schools
* A separate one is used for secondary schools
* One sits on the wide area network, monitoring applications used by
80 remote sites
* One is used to squeeze the best throughput from the borough's virtual private network links
* And another is used in the "DMZ" where the Internet site is published.
The project in a nutshell
THE PROBLEM
The Royal Borough of Kensington and Chelsea was faced with a bottleneck problem on its Internet network and could not afford to invest
in new bandwidth
SOLUTION
It invested in a cost-effective traffic management system, which allowed it to maximise the use of its ban bandwidth and prioritise important traffic.

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15/9/22 (Item 22 from file: 15)
01472843 ?? ?? ?? ?? ?? ?? 01-23831
Microsoft's Proxy Server: Controlling the flow to your intranet

Gibbs, Mark
Network World ?? v14n29 ??pp: S10-S12
Jul 21, 1997
ISSN: 0887-7661 ??Journal Code: NWW
Document Type: Journal article ??Language: English ??Length: 2 Pages
Word Count: 1053

Abstract:

The Microsoft Proxy Server is reviewed. It is an easy-to-use Windows

NT-specific firewall system, supports standard protocols and proxy techniques and provides excellent systems integration and reporting facilities. It will appeal to intranet managers who are committed to a Microsoft-supplied infrastructure and to those who are merely looking for
an effective and simple solution. Proxy servers can minimize bandwidth consumption and improve performance through the use of caching technology.
Microsoft Proxy Server only caches Web data. The most important aspects of
the Proxy Server are its abilities to control who is allowed to do what,
when and to where and its ability to monitor activity. Proxy Sever supports 3 methods of user authentication: anonymous access, which allows
any client to access the proxy service; basic authentication, the standard
challenge/response mechanism implemented by Web servers; and NT Challenge/Response, a proprietary mechanism that is at the heart of Microsoft's Windows NT security scheme.
??

Text:

Connecting your intranet to the Internet without an effective firewall is
unthinkable - you absolutely have to control which packets from what addresses carrying which protocols go where. In the absence of such controls, the value derived from intranet service can be outweighed by the
dollar losses incurred from misuse and hacking.

Given that this critical need can be expressed in terms of dollars saved or
at risk, it is not surprising that many highly competitive players are attracted to the firewall market. And it's no wonder Microsoft Corp. has
joined the fray.

The Microsoft Proxy Server, an easy-to-use Windows NT-specific firewall system, supports standard protocols and proxy techniques and provides excellent systems integration and reporting facilities. Competitively priced at $995, it will appeal to intranet managers who are committed to a
Microsoft-supplied infrastructure and to those who are merely looking for
an effective and simple solution.

Taking requests
Proxy Server comprises Web and WinSock components. The CERN-compliant Web
Proxy Server can handle the File Transfer Protocol (FTP), HTTP and Gopher
protocols. It also supports tunneling of Secure Sockets Layer (SSL) requests so you can provide access to Web servers via secure connections.
Any application on any operating system that can be configured for a

CERN-compliant proxy will work with the Microsoft Proxy Server.

The WinSock Proxy Server handles other TCP/IP protocols, including Internet
Relay Chat for real-time chat, the Network News Transport Protocol for newsgroups, Post Office Protocol 3 and Simple Mail Transfer Protocol for
e-mail, RealAudio for streaming audio and VDOLive for
streaming video. At present, this proxy server supports Windows clients using WinSock Version 1.1. Microsoft expects to support Win Sock
2.0 in the next version, but it has not committed to a release date.

The WinSock Proxy Server requires installation of client soft Tare that has
a Dynamic Link Library supplementing the WINSOCK-DLL. This additional DLL
intercepts Windows socket calls, examines them and, if the destination is
local, hands them over to the original WinSock DLL. If the destination is
not local, the DLL routes the call to the WinSock Proxy Server.

Of value for NetWare sites, Microsoft uses IPX, not TCP/IP, as the transport for WinSock Proxy Server access. Microsoft Proxy Server performs
all the conversions to and from IPX and TCP/IP and, in effect, treats all
requests as if for remote locations.

Microsoft 'caches' on

Proxy servers can minimize bandwidth consumption and improve performance
through the use of caching technology. With caching, the server keeps a copy of data it retrieves, so when the client requests that data again, the
proxy server can return it from the cache rather than getting another copy
from the target server.

Microsoft Proxy Server only caches Web data. Microsoft has not announced
plans for expanding caching to FTP or Gopher data.

For Proxy Server's cache, Microsoft recommends a minimum allocation of at
least lOOM bytes, plus 0.5M bytes for each Web proxy service client, rounded up to the nearest full megabyte. Providing proxy service to 50 Web
clients, for example, calls for at least a 125Mbyte cache.

Intranet managers can control the way Proxy Server performs the caching by
setting the amount of time that cached data is retained before it expires
and needs refreshing. The data retention period is called Time-to-Live

(TTL).

They also can control to what degree active caching is used. Active caching
is a sophisticated mechanism that refreshes data in the cache without client requests forcing the update. The server automatically refreshes the
cache based on how often the data is requested.

While intranet managers can adjust the TTL and active caching mechanisms,
automatic analysis of cache activity determines the final caching behavior.

Control and logging

The most important aspects of the Proxy Server are its abilities to control
who is allowed to do what, when and to where and its ability to monitor activity.

When configuring the two distinct Proxy Server components, you can control
which users and groups, as defined in the Windows NT User Manager for Domains, are allowed to access the Web and WinSock proxy servers.

Proxy Server supports three methods of user authentication: anonymous access, which allows any client to access the proxy service; basic authentication, the standard challenge/response mechanism implemented by
Web servers; and NT Challenge/Response, a proprietary mechanism that is at
the heart of Microsoft's Windows NT security scheme.

Basic authentication works adequately, but a hacker with a network protocol
analyzer can easily hack it. However, combining basic authentication and
SSL provides a robust security architecture.

The NT Challenge/Response also is robust, but applies to Microsoft products
only. This means the only browser that can use it is Microsoft's Internet Explorer.

Intranet managers also have the option of filtering requests to either specifically allow or deny access to servers by
domain or IP network or node address.

What's more, extensive logging is available with the Web and WinSock components. The Proxy Server can log access data to flat files or SQL databases. And for the flat-file logging, you can automatically create files for each day, week, month or when the log file reaches a certain size.

Up and running

Microsoft Proxy Server is actually an Internet Information Server (IIS) service. So to operate it, you have to install the IIS Web server first.

(Table Omitted)
Captioned as: PRODUCT CAPSULE

(Table Omitted)

Captioned as: PROS AND CONS

Proxy Server installation is easy; it takes only about 10 minutes. The installation guide is an excellent HTML document set.

I didn't find any problems while installing or operating the product. The interaction of Proxy Server with Remote Access Server connections was flawless (though for dial-up connections the setup time usually causes the browser to time out before the connection completes), and the translation to and from IPX is transparent.

Unlike some other proxy service products I've tried, the performance penalty involved with Proxy Server appears negligible.

Intranet value

The Microsoft Proxy Server is a welldesigned product that is perfect for intranet use. The server combines a broad range of protocol support with sophisticated caching and integration with the IIS service manager and performance monitor.
In addition, third-party vendors can add functionality to Proxy Server. For instance, Trend Communications has produced an add-on that performs virus detection and removal.

In short, Microsoft Proxy Server makes controlling the which/what/where of intranet connectivity much easier.

THIS IS THE FULL-TEXT.

Company Names:
Microsoft Corp (Duns: 08-146-6849 Ticker: MSFT)
Geographic Names: US

Descriptors: Software reviews; Servers; Computer security; Access control; Firewalls
Classification Codes: 9190 (CN=United States); 5240 (CN=Software & systems); 5140 (CN=Security); 9120 (CN=Product specific)